TOP SECRET

[redacted]

PHOTOGRAPHIC
INTERPRETATION
REPORT

NATIONAL PHOTOGRAPHIC
INTERPRETATION CENTER

HARDENED CENTRAL-COMMAND-ASSOCIATED FACILITIES NEAR MOSCOW

[redacted]

25X1

TOP SECRET

25X1

APRIL 1971
COPY NO 118
18 PAGES
PIR-016/71

GROUP 1: EXCLUDED FROM
AUTOMATIC DOWNGRADING
AND DECLASSIFICATION

Next 1 Page(s) In Document Denied

25X1

25X1

13 July 1971

MEMORANDUM FOR: Recipients c

25X1

SUBJECT : Hardened Central-Command-Associated Facilities Near Moscow (USSR)
Photographic Interpretation Report dated May 1971

On page 14, in Table 3, in order to obtain correct readings from the azimuth column, from the figures in the table which are erroneous because of a processing error. For example, where the entry in the table

25X1

25X1

25X1

GROUP 1 EXCLUDED FROM AUTOMATIC DOWNGRADING AND DECLASSIFICATION

25X1

TOP SECRET CHESS RUFF

INSTALLATION OR ACTIVITY NAME					COUNTRY
See below					UR
UTM COORDINATES	GEOGRAPHIC COORDINATES	CATEGORY	BE NUMBER	COMIREX NO.	NIETB NO.
NA	See below	See below	See below	See below	See below

MAP REFERENCE
ACIC. USATC 200, Sheet 0167-5HL, scale 1:200,000
ACIC. USATC 200, Sheet 0154-22HL, scale 1:200,000

NEGATION DATE (If required)
NA

25X1

REQUIREMENT
DIA. D-387/70

NPIC PROJECT
NPIC/IEG/MSD/DMEB Project 250957AA

25X1

Installation Name	Geographic Coordinates
Chekhov Command/Control Facility	55-09-55N 037-15-20E
Sharapovo Command/Control Facility	55-11-00N 037-35-00E
Moscow National Air Defense Headquarters at Chernoye	55-46-46N 038-01-05E
Ramenskoye RADCOM Receiver Station	55-31-20N 038-03-20E
Pushkino RADCOM Transmitter Station East	56-03-11N 038-02-06E
Kryukovo HF Communications Facility Northwest	55-57-45N 037-08-50E
Moscow RADCOM Station Lozhki	56-04-39N 037-01-11E

ABSTRACT

1. This report describes seven hardened central-command-associated facilities in the Moscow area. These facilities are either central command and control facilities or high-frequency communications facilities thought to be associated with the Soviet central command communications network.

2. This publication updates information in NPIC repor [redacted] of September 1966. Included are a detailed description of each facility, annotated photographs, mensural data, and a location map.

25X1

CONCLUSIONS

3. The following observations have been made as the result of photo analysis of the seven facilities:

4. The Chekhov Command/Control Facility and the Sharapovo Command/Control Facility are virtually identical, having basically the same types of operational and support components. They would appear to be major central command and control facilities.

5. The operational components of the Moscow National Air Defense Headquarters at Chernoye are similar in design to those of the above two facilities, but the support areas are different. The support area at the air defense headquarters lacks family housing. Although overhead photography cannot confirm this facility as being air defense associated, it certainly appears to be a major central command/control facility.

6. The R-400 microwave dishes at the Ramenskoye RADCOM (radio communications) Receiver Station are oriented toward the Chernoye facility, indicating a possible direct communications capability between the two.

INTRODUCTION

7. This report updates information on seven of the ten hardened probable central-command-associated facilities described in NPIC report [redacted] (Figure 1).[1] Al 25X1
seven facilities are considered to be either central command and control facilities or associated with the central command high-frequency (HF) communications network.

25X1

TOP SECRET CHESS RUFF

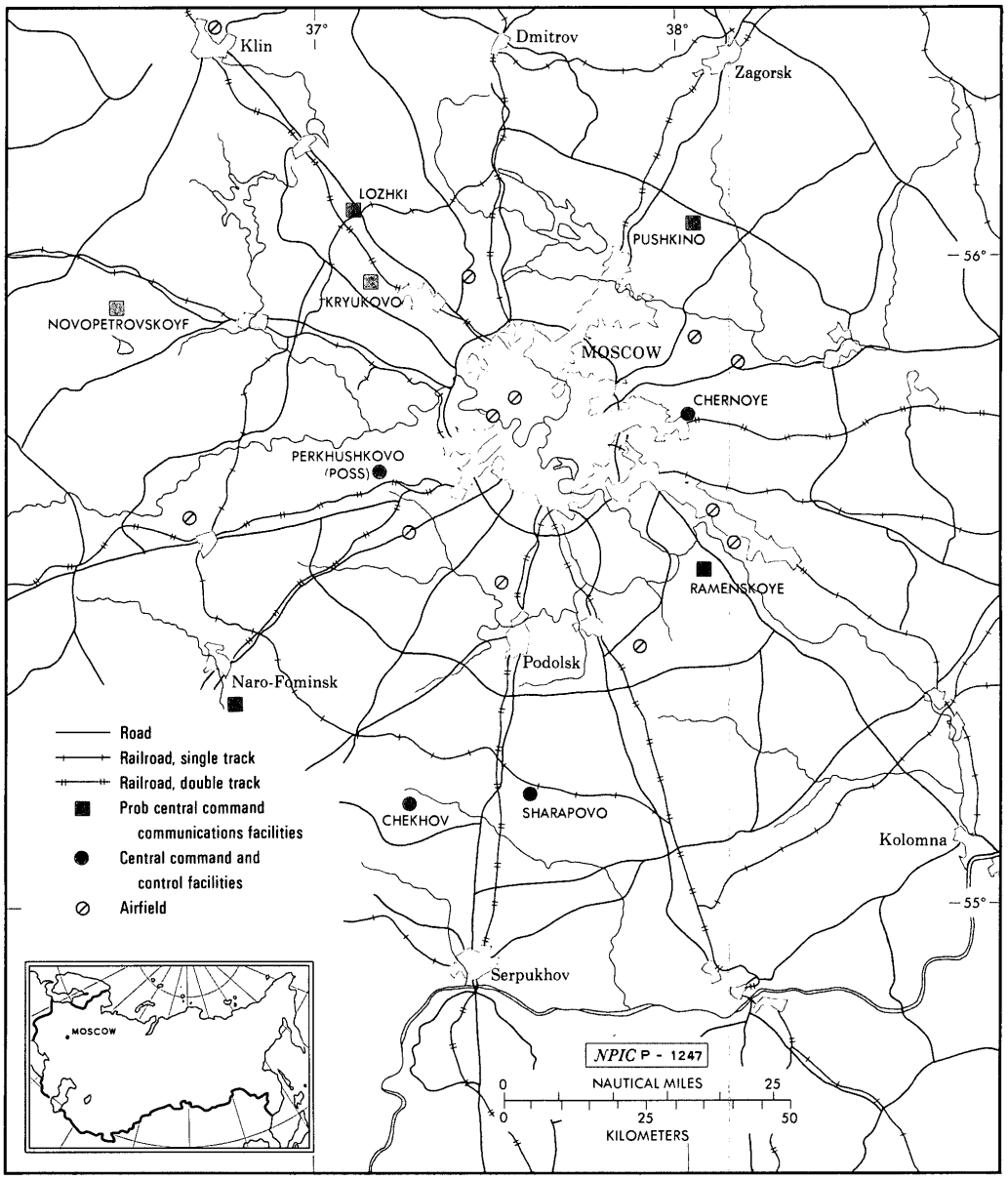


FIGURE 1. LOCATION MAP

However, the specific forces controlled by the facilities could not be determined from photography. The three remaining facilities, which are well established as facilities related to the Strategic Rocket Forces, described in [redacted] and will be discussed in a separate report. They are the Novopetrovskoye SRF RADCOM Control Station, [redacted] the Naro-Fominsk SRF RADCOM Control Station, [redacted] and the Perkhushkovo Possible Command/Control Facility [redacted] (see Figure 1). 25X1 25X1 25X1 25X1

8. The seven facilities are all located within a 40-nautical-mile (nm) radius of Moscow. The Chekhov and Sharapovo facilities are about 40 nm south of the city, with the Chekhov facility about 11 nm west of Sharapovo. The Moscow National Air Defense Headquarters at Chernoye[2] is about 10 nm east of Moscow. The Ramenskoye receiver station is about 20 nm southeast of Moscow, and the Pushkino transmitter station is about the same distance northeast of the city. The remaining two facilities, KRYUKOVO HF Communications Facility Northwest and Moscow RADCOM Station LOZHKI, are northwest of Moscow about 20 and 25 nm, respectively.

BASIC DESCRIPTION

Central Command and Control Facilities

9. The Chekhov Command/Control Facility, the Sharapovo Command/Control Facility, and the Moscow National Air Defense Headquarters at Chernoye are very similar in appearance. Each has earth-mounded personnel bunkers, associated operations buildings, and a support area.

10. The personnel bunkers at these three facilities may be grouped into four distinct categories based on bunker shape, bunker location, and the types of associated operations buildings. These four categories are as follows:

Category 1: A single, doubly secured bunker that is isolated from the operations area of the facility.

Category 2: A bunker with at least five single-story operations buildings of identical size associated with it.

Category 3: A bunker with at least three multistory operations buildings associated with it.

Category 4: A bunker that consists of two separate cylindrical sections with a small rectangular building between them. No operations buildings (in contrast to bunkers in categories 2 and 3) are associated with bunkers in this category.

11. The Chekhov and Sharapovo facilities each have one bunker of the type in categories 1, 2, and 4 and two bunkers of the type in category 3. The Moscow National Air Defense Headquarters at Chernoye has two category 3 bunkers and one category 4 bunker.

12. The support areas at Chekhov and Sharapovo are very similar. Each has 64-unit apartment buildings, a barracks area, a motor pool, and numerous other personnel and logistics buildings. The support area at the air defense headquarters at Chernoye has most of these building types but lacks family housing. Sharapovo is the only one of the seven facilities that contains a rail facility.

Chekhov Command/Control Facility

13. The Chekhov Command/Control Facility (Figure 2) consists of a category 1 personnel bunker, a secured operations area with four other personnel bunkers, a support area, and a motor pool.

Personnel Bunkers

14. Bunker 1 (Figures 2 and 3) is northeast of the operations area. This doubly secured, isolated bunker is a category 1 bunker. It has two road-served entrances. Four ventilator structures are on top of the mound covering the bunker. The bunker is about 96 meters (315 feet)* in diameter. One major building (item 53, Figure 2) is within the secured area of the bunker.

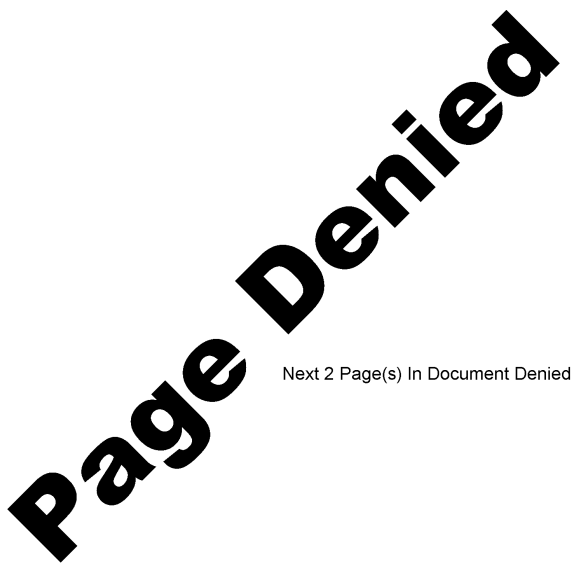
15. Bunker 2 (Figures 2 and 4) is in the operations area. This bunker is a category 2 bunker. Three multistory operations buildings (items 11-13, Figure 2) are north of it. Six identical single-story buildings of unidentified function (items 14, 15, 17, 18, 20, and 21) are associated with the bunker. Each has three vents on its roof and appears to be windowless. Two other buildings (items 16 and 19) are also associated with bunker 2. No readily accessible entrance to the bunker is observed. A circular security building (see Figure 4) is on one side of the mound. The bunker is of about the same diameter as bunker 1.

16. Bunker 3 (Figure 2) is a category 4 bunker. This bunker is secured by a rectangular wall. No operations buildings are associated with it.

17. Bunker 4 (Figures 2 and 5) and bunker 5 (Figure 2) are category 3 bunkers. Four multistory operations buildings (Figure 5 and items 1-4, Figure 2) are associated with bunker 4. On the mound covering the bunker are a circular security building (item 1, Figure

25X1

(Continued)



Next 2 Page(s) In Document Denied

5), three probable vent structures (items 2-4), an arc-shaped structure (item 5), and a linear structure (item 6). The linear structure probably covers an entrance. A second, smaller entrance structure (item 7) is also noted. A gable-roofed building is immediately south of the mound. Three 3-story operations buildings (items 6-8, Figure 2) are associated with bunker 5. This bunker also has a circular security building, probable vent structures, and an arc-shaped structure on top of the bunker. No readily accessible entrance is observed.

Support Area

18. There are six 64-unit apartment buildings (item 44, Figure 2) in the support area. Two others (items 42 and 43 are under construction. Also within the area are ten 16-unit apartment buildings (item 46), two schools (items 35 and 39), and a hospital (item 37). Military housing consists of two 3-story barracks (items 26 and 28), which have an estimated total capacity of 1,200 personnel. A motor pool consists of two vehicle storage buildings (items 29 and 30) and a vehicle service building (item 31).

Main Motor Pool

19. The main motor pool contains three vehicle storage buildings (items 49-51), a barracks building (item 48), and a heatplant (item 47). The location of the motor pool adjacent to bunker 1 does not appear to be for operational purposes.

Sharapovo Command/Control Facility

20. The Sharapovo Command/Control Facility (Figure 6) is very similar to the Chekhov facility. It consists of a secured operations area with four personnel bunkers and associated operations buildings, an isolated personnel bunker, a support area, and a motor pool. It differs from the Chekhov facility by containing a rail facility. Sharapovo has not been covered on large-scale photography.

Personnel Bunkers

21. The five bunkers at Sharapovo are of the same categories and present in the same numbers as at Chekhov. Bunker 1 is a doubly secured, isolated category 1 bunker. Bunker 2 is a category 2 bunker. Five single-story operations buildings, all of which measure 29 by 15 by 3 meters (96 by 49 by 10 feet), are associated with this bunker. No multistory operations buildings are associated with it. The bunker is separately secured. Bunker 3 is typical of category 4, and bunkers 4 and 5 are category 3 bunkers. The latter two bunkers are located closer to their associated operations buildings than at the Chekhov facility.

Support Area

22. The support area contains seven 64-unit apartment buildings, 12 eight-unit apartment buildings, schools, a hospital, and other personnel and logistics buildings.

Rail Facility

23. The rail facility consists of a four-track holding yard, at least six warehouses, and other storage-type buildings.

Moscow National Air Defense Headquarters at Chernoye

24. The Moscow National Air Defense Headquarters at Chernoye (Figure 7 and Table 1) consists of a secured operations area containing three personnel bunkers and associated operations buildings, a support area, a special support area, and two associated areas (one possible).

(Continued p. 17)

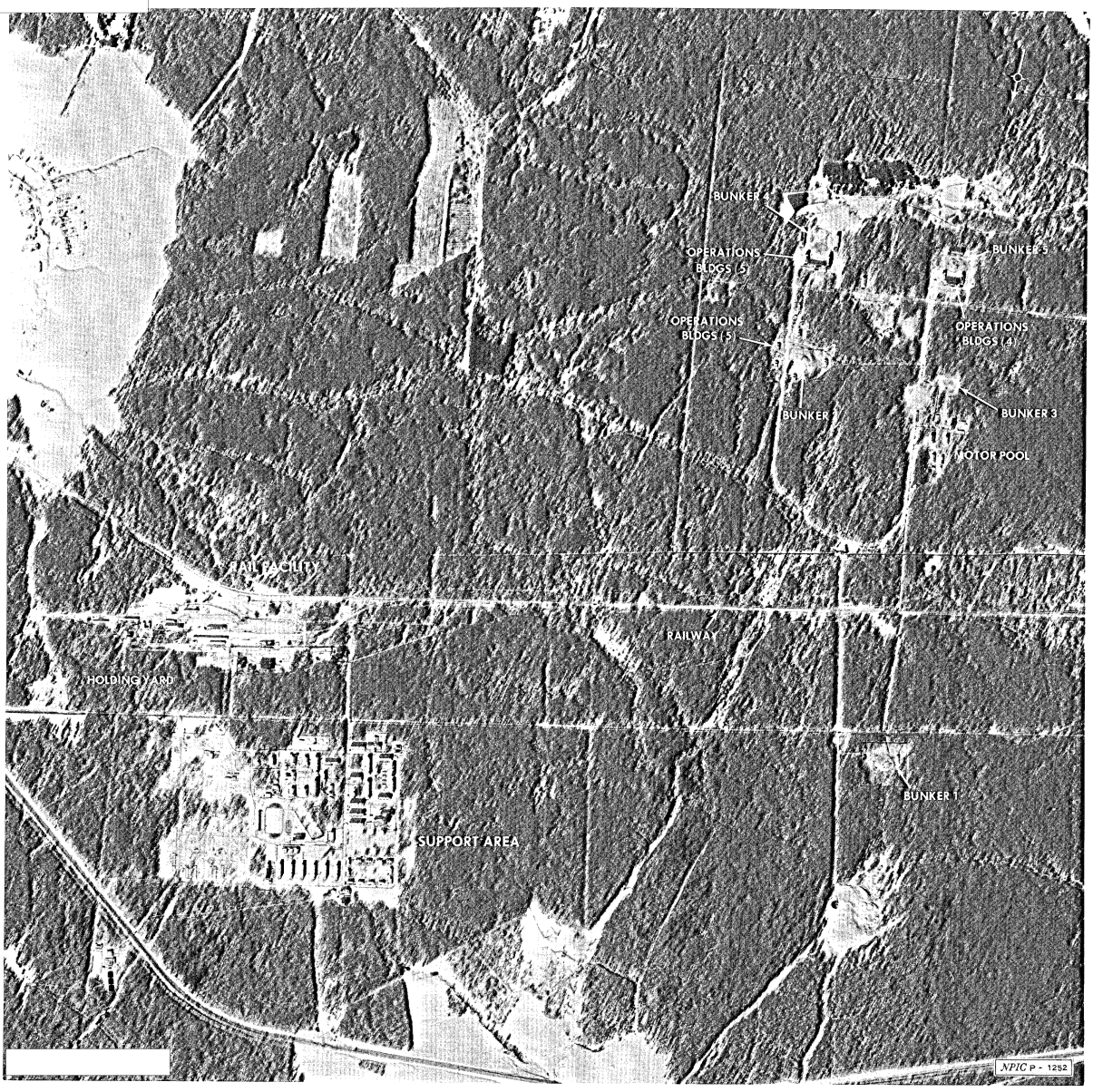


FIGURE 6. SHARAPOVO COMMAND/CONTROL FACILITY

25X1

Table 1. Data on Significant Buildings at Moscow National Air Defense Headquarters at Chernoye (Item numbers are keyed to Figure 7)

Item	Description	Dimensions* (L x W x H)	
		Meters	Feet
1	Operations bldg	32 x 15 x 5	104 x 48 x 17
2	Operations bldg	67 x 18 x 11	221 x 60 x 38
3	Operations bldg	37 x 21 x 11	122 x 68 x 38
4	Operations bldg	50 x 13 x 11	164 x 44 x 38
5	Operations bldg	69 x 19 x 12	227 x 62 x 38
6	Operations bldg	61 x 13 x 17	201 x 44 x 57
7	Operations bldg	31 x 16 x 9	102 x 53 x 30
8	Operations bldg	50 x 14 x 11	164 x 46 x 38
9	Operations bldg	50 x 14 x 11	164 x 46 x 38
10	Operations bldg	50 x 19 x 5	16 x 63 x 16
11	Bldg	15 x 13 x 2	50 x 43 x 8
12	Special support bldg	Irregular	Irregular
13	Special support bldg	Irregular	Irregular
14	Bldg	40 x 14 x 10	130 x 45 x 32
15	Bldg	35 x 15 x 7	115 x 48 x 24
16	Bldg	64 x 13 x 13	212 x 42 x 43
17	Bldg	Irregular	Irregular
18	Bldg	28 x 15 x 5	92 x 49 x 16
19	Barracks	77 x 18 x 13	253 x 61 x 44
20	Barracks	77 x 18 x 13	253 x 61 x 44
21	Barracks	69 x 19 x 11	228 x 62 x 36
22	Vehicle storage bldg	16 x 7 x 5	51 x 23 x 18
23	Vehicle storage bldg	63 x 20 x 5	208 x 64 x 18
24	Vehicle storage bldg	101 x 19 x 7	333 x 62 x 22
25	Heatplant	--	--
26	Mess hall	35 x 19 x 13	114 x 63 x 42

25X1

25X1

25X1

Table 2. Data on HF Communications Antennas at Ramenskoye RADCOM Receiver Station (Antenna numbers are keyed to Figure 9)

Antenna Number	Antenna Type	Soviet Designator	Frequency (MHz)
1	Fishbone	BS2 21/8 200/4.5 25	3-24
2	Rhombic	RGD 65/4 1	6-12.5
3	Rhombic	RGD 65/4 1	10.3-21.4
4	Fishbone	BS2 21/8 200/4.5 25	3-24
5	Fishbone	BS2 21/8 200/4.5 25	3-24
6	Fishbone	BS2 21/8 200/4.5 25	3-24
7	Fishbone	BS2 21/8 200/4.5 25	3-24
8	Rhombic	RGD 65/4 1	6-12.5
9	Rhombic	RGD 65/4 1	10.3-21.4
10	Fishbone	BS2 21/8 200/4.5 25	3-24
11	Rhombic	RGD 65/4 1	6-12.5
12	Rhombic	RGD 65/4 1	10.3-21.4
13	Fishbone	BS2 21/8 200/4.5 25	3-24
14	Rhombic	RGD 65/4 1	6-12.5
15	Rhombic	RGD 65/4 1	10.3-21.4
16	Fishbone	BS2 21/8 200/4.5 25	3-24
17	Fishbone	BS2 21/8 200/4.5 25	3-24
18	Rhombic	RGD 57/1.7 0.5	2.76-6.88
19	Rhombic	RGD 57/1.7 0.5	6.63-16.52
20	Fishbone	BS2 21/8 200/4.5 25	3-24
21	Rhombic	RGD 65/4 1	6-12.5
22	Rhombic	RGD 65/4 1	10.3-21.4
23	Rhombic	RGD 65/4 1	6-12.5
24	Rhombic	RGD 65/4 1	10.3-21.4
25	Fishbone	BS2 21/8 200/4.5 25	3-24
26	Horizontal dipole	VGD 30/23 d	2.5-6.25
27	Quadrant	UGD 20/18 d	5.62-9.55
28	Quadrant	UGD 8/11 d	14.05-23.9
29	Horizontal dipole	VGD 15/UN d	5.0-12.5
30	Horizontal dipole	VGD 30/23 d	2.5-6.25
31	Horizontal dipole	VGD 15/UN d	5.0-12.5
32	Horizontal dipole	VGD 30/23 d	2.5-6.25
33	Quadrant	UGD 12/12 d	9.35-15.9
34	Quadrant	UGD 32/23 d	3.51-5.97
		Dimensions	
35	Hardened (subsurface)	137 x 69	--
36	Hardened (subsurface)	111 x 59	--
37	Hardened (subsurface)	116 x 58	--
38	Hardened (subsurface)	163 x 117	--
39	Hardened (subsurface)	199 x 115	--
40	Hardened (subsurface)	181 x 109	--

Table 3. Data on HF Communications Antennas at Pushkino RADCOM XMTR Station E (Antenna numbers are keyed to Figure 10)

Antenna Number	Antenna Type	Soviet Designator	Frequency (MHz)	Azimuth* (Degrees)
1	Rhombic	RGD 65/4 1	10.26-21.36	
2	Rhombic	RGD 65/4 1	5.14-10.71	
3	Rhombic	RGD 65/4 1	5.14-10.71	
4	Rhombic	RGD 65/4 1	10.26-21.36	
5	Rhombic	RGD 65/4 1	5.14-10.71	
6	Rhombic	RGD 65/4 1	10.26-21.36	
7	Rhombic	RGD 65/4 1	5.14-10.71	
8	Rhombic	RGD 65/4 1	10.26-21.36	
9	Rhombic	RGD 65/4 1	10.26-21.36	
10	Rhombic	RGD 65/4 1	5.14-10.71	
11	Rhombic	RGD 65/4 1	10.26-21.36	
12	Rhombic	RGD 65/4 1	5.14-10.71	
13	Rhombic	RGD 65/4 1	5.14-10.71	
14	Rhombic	RGD 65/4 1	10.26-21.36	
15	Rhombic	RGD 65/4 1	10.26-21.36	
16	Rhombic	RGD 65/4 1	5.14-10.71	
17	Rhombic	RGD 65/4 1	10.26-21.36	
18	Rhombic	RGD 65/4 1	6.0-12.5	
19	Horizontal dipole	VGD 15/16 d	5.0-12.5	
20	Horizontal dipole	VGD 15/16 d	5.0-12.5	
21	Horizontal dipole	VGD 8/UN d	9.38-23.45	
22	Horizontal dipole	VGD 15/16 d	5.0-12.5	
23	Horizontal dipole	VGD 15/16 d	5.0-12.5	
24	Horizontal dipole	VGD 15/16 d	5.0-12.5	
25	Horizontal dipole	VGD 8/UN	9.38-23.45	
26	Horizontal dipole	VGD 8/UN d	9.38-23.45	
27	Horizontal dipole	VGD 15/16 d	5.0-12.5	
28	Horizontal dipole	VGD 8/UN d	9.38-23.45	
29	Horizontal dipole	VGD 15/16 d	5.0-12.5	
30	Horizontal dipole	VGD 15/16 d	5.0-12.5	
31	Horizontal dipole	VGD 15/16 d	5.0-12.5	
32	Horizontal dipole	VGD 15/16 d	5.0-12.5	
33	Quadrant	UGD 20/12.4 d	5.62-9.55	Omnidirectional
34	Quadrant	UGD 32/15.5 d	3.51-5.97	Omnidirectional
35	Quadrant	UGD 30/21 d	3.75-6.37	Omnidirectional
36	Quadrant	UGD 32/17 d	3.51-5.97	Omnidirectional
37	Quadrant	UGD 20/12.7 d	5.62-9.55	Omnidirectional

25X1

FIGURE 11. KRYUKOVO HF COMMUNICATIONS FACILITY NORTHWEST

25X1

FIGURE 12. MOSCOW RADCOM STATION LOZHKI

25X1

Personnel Bunkers

25. Bunkers 1 and 2 are of the type in category 3. Each bunker has four associated operations buildings (items 1-8, Figure 7). However, a third set of operations buildings (items 8-10), arranged in the characteristic U-shaped pattern, may also be associated with bunker 2.

26. A circular road runs to the tops of both the mounds covering the bunkers (Figure 8) and stops at a probable entrance structure. Other small structures on top of the mounds are probably for ventilation. A circular security building is at both of the bunkers.

27. Bunker 3, a category 4 bunker, is like bunker 3 at Chekhov.

Support Area

28. The support area contains three 3-story barracks-type buildings (items 19-21, Figure 7), a messhall (item 26), and a motor pool consisting of three vehicle storage buildings (items 22-24). This support area has neither the number nor the variety of buildings that Chekhov and Sharapovo do. There are no apartment buildings. This appears to be a military support area.

Special Support Area

29. This separately secured area consists primarily of two irregularly shaped, two-story buildings (items 12 and 13) on landscaped grounds. This appears to be an area for selected people or special events.

Associated Areas

30. One associated area is just north of the operations area. It consists of numerous small buildings or structures and an athletic field. Another area, somewhat farther north, may be associated with the air defense headquarters facility. It consists of four major buildings (items 15-18) of undetermined function.

High-Frequency Communications Facilities

31. The Ramenskoye RADCOM Receiver Station, the Pushkino RADCOM Transmitter Station East, the Kryukovo HF Communications Facility, and Moscow RADCOM Station Lozhki are considered to be central-command-associated HF communications facilities because of the characteristics of their antenna fields and the presence of hardened central control buildings.

Ramenskoye RADCOM Receiver Station

32. The Ramenskoye RADCOM Receiver Station (Figure 9) is fence secured and contains 11 fishbone antennas, 14 rhombic antennas, five horizontal dipole antennas, and four quadrant antennas. A complete description of these antennas is provided in Table 2. The antennas surround the earth-covered central control building. Six hardened (subsurface) antennas are in the immediate vicinity of the control building, as are two masts, both with dual R-400 microwave dishes mounted on them. The approximate orientation of the microwave dishes is [redacted] toward the Moscow National Air Defense 25X1
Headquarters at Chernoye.

33. The support area serving this facility contains a barracks building, an apartment-type building, a vehicle storage building, and 14 miscellaneous buildings.

Pushkino RADCOM Transmitter Station East

34. The antenna field at the Pushkino RADCOM Transmitter Station East (Figure 10) contains 18 rhombic antennas, 14 horizontal dipole antennas, and five quadrant antennas. A complete description of these antennas is provided in Table 3. The facility contains two earth-covered control buildings and a support area. Each of the control

buildings has two entrances. Two rectangular probable ventilator structures are on top of each bunker. The support area contains a barracks building, an apartment-type building, and 13 miscellaneous buildings. The entire facility is secured.

Kryukovo HF Communications Facility Northwest

35. The Kryukovo HF Communications Facility Northwest (Figure 11) contains an aboveground control building in addition to the hardened probable control building. The antenna field contains at least 16 rhombic antennas. An area of unidentified activity contains four buildings and a 60- by 40-meter (197- by 131-foot) rectangular ground pattern. The facility appears to be fence secured. Small-scale photography precludes further interpretation of the facility or a detailed interpretation of its antennas. Facility support consists of at least 25 buildings, including barracks and apartment-type buildings.

Moscow RADCOM Station Lozhki*

36. The antenna field at Moscow RADCOM Station Lozhki (Figure 12) is fence secured and contains at least 35 rhombic antennas. In addition to the earth-mounded main control building, the facility contains two aboveground secondary control buildings and a support area consisting of at least 25 buildings, including barracks and apartment-type buildings. As with the Kryukovo facility, small scale precludes further interpretation of the facility or a detailed interpretation of its antennas.

*This facility is referred to as the Poselok HF Communications Facility in document 1.

REFERENCE

25X1

DOCUMENTS

1. NPIC. [redacted] *Hardened Central Command Facilities, Moskva Area, USSR,* Sep 66 (TOP SECRET CHESS RUFF CODEWORD-- [redacted] 25X1 25X1
2. DOD. IIR Number 2 901 0131 65, *Major Hdqtrs in the Moscow Area,* Moscow, 9 Jun 65 (SECRET)

MAPS

ACIC. US Air Target Chart, Series 200, Sheet 0167-5HL, scale 1:200,000

ACIC. US Air Target Chart, Series 200, Sheet 0154-22HL, scale 1:200,000

REQUIREMENT

DIA. D-387/70
NPIC/IEG/MSD/DMEB Project 250957AA

**The latest and best photography of each facility was used.

25X1